X

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN

AJMERE-MERWARA

FOR

1890-91.

1892.

No. 279 F., dated Calcutta, the 24th February 1892.

From—Sir E. C. Buck, Kt., *Secretary to the Government of India,*
To—*The Chief Commissioner of Ajmere-Merwara.*

I am directed to acknowledge the receipt of your letter No. 1820 S. of the 8th August last, forwarding the Annual Progress Report upon Forest Administration in Ajmere and Merwara for the year 1890-91, as well as your orders thereon and a note by the Commissioner. The Report has been punctually submitted.

2. The additions made during the year to areas controlled by the Forest Department were unimportant, amounting in all to 180 acres. It is regrettable that it was not found possible during the year to extend in a more marked degree the area of Village Reserves. Progress in this direction is perhaps the most important which can be made in the administration of the Ajmere-Merwara forests. But the Government of India are satisfied that the local authorities concerned are fully cognizant of the advantages which must accrue to the pastoral population of the country from an active extension of the policy in this respect, which was inaugurated in 1889-90, and are confident that no means will be left untried to educate the people up to the conviction that the preservation of their forests is necessary in their own immediate interests. A draft Regulation for the management and protection of these forests has been recently under consideration and will, it is hoped, be shortly promulgated.

3. It is observed that information regarding areas under cultivation within reserved forests will shortly be available, and I am to say that a report on this subject, together with particulars concerning such amendments or additions as it will be necessary to make in consequence in the record-of-rights of the Reserves, should be submitted to the Government of India.

Attention appears to have been given to the demarcation of the forests, and the plan of cutting boundary lines of sufficient breadth to enable them to serve the purpose of fire-traces commends itself to the Government of India in regard to such forests as are usually found in Ajmere-Merwara.

It is noticed from paragraph 15 of the Report that the necessary information and statistics for the preparation of a Working-Plan for the forests have been collected, and that the plan was to have been framed during the past rainy season. In accordance with the orders conveyed in this Department Circular No. 9 F. of the 14th May 1889, the previous advice of the Inspector General of Forests should be sought by the officer charged with this duty.

4. The general protection of the forests during the year under review was successful, and it is satisfactory to observe that no fires took place, although this was due in a great measure to the scantiness of the grass-crop and the large number of grazing animals admitted into the Reserves. The cost of fire-protection was, by this means, still further reduced to 0·16 pies per acre of forests. The number of forest-offences remained almost the same as in the preceding year, but fewer cases were compounded by the Forest Officer than during 1889-90, while a greater number were prosecuted in Court. The increase in the

average compensation accepted in compounded cases is ascribed in the Report as due to most of the offenders having been twice convicted of the same offence. This would appear to indicate either that the application of section 67 of the Forest Act to such cases is inexpedient, or that the compensation levied has no really deterrent effect and should be materially increased. It is possible, however, that the conditions in this respect existing during the year were abnormal in consequence of the prevalent scarcity of grass-fodder.

5. The time allowed for the cutting of grass within reserves was reduced from four months to one month in order to meet the expected scarcity of fodder throughout the country by throwing the State forests open to grazing. This action has involved a change not only of practice, but of policy also.

From the year of the great famine, 1878-79, it had been the aim of the local administration to promote, on Government lands at any rate, the cutting of grass, and to reduce grazing within the narrowest limits; and, as the result of this continuous policy, the annual outturn of cut-grass had steadily increased from 740,000 bundles in 1884-85 to 1,692,000 bundles in 1889-90.

This fact was accepted as an indication that the people had begun to understand and appreciate the true advantages of a conservative treatment of the fodder-resources of the country, and some disappointment has therefore been felt that, in the year under review, it should have been thought advisable to abandon what is held to be the more economical method of reaping a grass-crop in favour of grazing. The circumstance that a general scarcity of fodder was expected would, if the policy hitherto advocated is sound, have justified a closer exclusion of cattle from the reserves rather than their unrestricted admission while grass fit for the sickle was still on the ground. The outturn in cut-grass decreased from 1,692,000 to 304,000 bundles, or to 18 per cent. of last year's yield.

It is at the same time admitted that on forest pastures, especially where the arbori-vegetation consists to a great extent of scrub, there will always be found growing amongst thorns a certain quantity of grass which cannot profitably be removed by hand, but will be searched for and grazed out by hungry cattle. With this fact in view the Governor General in Council has no objection to the proposal made in paragraph 4 of your letter No. 1227 S., dated the 13th June 1891, that such reserves should be thrown open to grazing in years of marked scarcity, provided that such action be not taken until after the removal of such fodder as can profitably be cut by hand.

But His Excellency in Council cannot approve of the suggestion made by Colonel Biddulph, that all reserves, not specially selected for the production of timber and fuel, should be thrown open annually to grazing, subject only to a limitation of the number of cattle admissible to each block. The reserves do not appear to be either extensive or productive enough to justify a system of treatment which is held to be the least economical, and which would interrupt the progress of a policy which appears to the Government of India to be calculated to secure the fullest results.

6. The area over which sowing and planting operations extended was almost double that of the previous year. Planting work produced very favourable results, but 72 per cent. of the sowings failed owing to the exceptional dryness of the season.

7. The outturn of forest-produce, including the estimated value of free-grants, compares as follows with the figures of the previous year:—

Agency by which removed.	Timber.	Fuel.	Bamboos.	Minor-produce.
	c. ft.	c. ft.	No.	R
Government	.....	.....	.....	.....
Purchasers	2,331	187,027	2,931	4,593
Free-grants	1,335	.....	.....	22,028
Right-holders	.....	.....	.....	4,229
Total in 1890-91	3,666	187,027	*2,931	30,850
„ 1889-90 .	5,619	185,900	12,412	84,898
Difference in 1890-91 .	—1,953	+1,127	—9,481	—54,048

* Value R96.

The large decrease in the quantity of minor-produce removed during the year is another of the consequences due to the reserves having been opened to grass-cutting for a period of one month only.

8. The financial results of the year were satisfactory, a surplus being shown for the first time since the institution of forest-conservancy in Ajmere. While the charges remained practically unaltered as compared with the figures of 1889-90, the receipts expanded by 32 per cent., leaving a net surplus of R2,546:—

Year.	Receipts.	Charges.	Surplus or Deficit.
	R	R	R
1890-91	15,266	12,720	+2,546
1889-90	11,592	12,701	—1,109
Difference in 1890-91	+3,674	+19	+3,655
Average for the five years ending 1889-90 . . .	12,086	16,897	—4,811

9. In conclusion, I am to say that, except as regards the treatment of the fodder resources, the Government of India concur with you in regarding the forest administration during the year as satisfactory and creditable to the officers concerned.

No. 280 F.

COPY, with copy of the Report, forwarded to the Government of the North-Western Provinces and Oudh for communication to the Conservator of Forests, School Circle.

No. 281 F.

COPY, with copy of the Report, forwarded to the Foreign Department for information.

Government of India Central Printing Office.—No. 1313 R. & A.—7-3-92.—200.

Discrepancies noticed in the Ajmere Forest Administration Report for 1890-91.

Paragraph 8 of Report.

The total area conserved for Forest purposes at the close of the year is shown in the statement as 94,718 acres, while in the remark which immediately follows the statement it is said to be 94,679 acres.

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN AJMERE-MERWARA, 1890-91.

No. 1820 S., dated Mount Abu, the 8th August 1891.

From—The Officiating Secretary to the Chief Commissioner, Ajmere and Merwara,

To—The Secretary to the Government of India, Revenue and Agricultural Dept.

I AM directed by the Chief Commissioner of Ajmere and Merwara to submit herewith the Annual Report of Forest Administration in Ajmere and Merwara for the year 1890-91, accompanied by a copy of the Resolution passed by the Chief Commissioner thereon.

Extract from the Proceedings of the Chief Commissioner of Ajmere in the Public Works Department—No. 1819 S., dated 8th August 1891.

READ—

The Annual Progress Report of Forest Administration in Ajmere and Merwara for the year 1890-91, by Mr. Hira Singh, Sub-Assistant Conservator of Forests, with a review thereon by the Commissioner of Ajmere and Merwara, received under cover of Commissioner's letter No. 95 F., dated the 11th July 1891.

RESOLUTION.

Area and Boundaries.

During the year under report the area of the Government Forest Reserves in Ajmere and Merwara increased from 89,264 acres to 89,374 acres, an increase of 110 acres having been obtained by the addition of a patch of Forest ground called Bijasar to the Todgarh Reserve and by taking up new tracts at Jalia and Balad. These areas were added to the Government Reserves by a Notification of the Government of India. The area above shown cannot, however, be taken as the exact area of the Forest Reserves, which, as was already pointed out in the last Report, contained some patches of cultivated land. With regard to this the Sub-Assistant Conservator, in paragraph 10 of his Report, states that a register of cultivation has been prepared by him, and that on receipt of information regarding cultivated land in some of the Ajmere Forest Reserves, which has been called for from the Revenue Department, the area of the patches of cultivated land in the Forest Reserves will be totaled, and the exact area of the Forest Reserves ascertained. The Chief Commissioner will be glad if the required information is obtained early from the Revenue Department and the exact area of the Forest Reserves shown in the next year's Report.

2. The area and the number of the Village Reserves are also reported to have been increased during the year. A Village Reserve, with an area of 70 acres, was formed out of the Shamlat of Dauta village and added to the eight Reserves already managed by the Forest Department. The importance attached

by the Government of India and the Chief Commissioner to increasing, as far as possible with the consent of the people, the number of private Village Reserves is, it is believed, fully realised by the District authorities.

3. In the Review on the Report for the year 1889-90 the Government of India expressed their regret that it was not possible to place these Reserves under the protection of the special Forest Law by declaring them State Forests, and a draft regulation, prepared by Mr. Hill, Officiating Inspector General of Forests, for affording aid of Government in the preservation of wood-lands and grazing-grounds not being State Forests, in Ajmere and Merwara, has already been received from the Government of India, and is now under consideration.

Fencing and Boundary Pillars.

4. All the boundary pillars were kept in proper repair at a moderate cost of R76. The demarcation of the Forest tracts by fencing and boundary lines was properly carried out during the year. A boundary line of 22 miles is reported to have been cut in the Dewair and Todgarh Reserves at a small cost of R605. The Sub-Assistant Conservator of Forests states that these boundary lines will serve as fire lines, as well as greatly facilitate the destruction of locusts, if an extra width of 20 feet on either side be burnt. This suggestion should be carried out.

Register of Rights.

5. The Sub-Assistant Conservator of Forests was directed to prepare a complete list of all the omissions to be rectified in this most important document. He does not state in his Report what progress has been made in this work, which should be completed as soon as possible.

Surveys.

6. It is to be regretted that the Sub-Assistant Conservator could not do anything in this direction through press of other work. The Chief Commissioner hopes that this matter will receive early attention during the next year.

Working-Plans.

7. The working of the Forests was carried out as usual according to preconcerted plans. The operations effected included, as usual, protection from fire, regulation of grazing and improvement by sowing and planting. It has already been pointed out to the Sub-Assistant Conservator of Forests that Working-Plans should be substituted for yearly Plans of Operation.

Breaches of Forest Rules.

8. With regard to protection of Forest areas against trespass and illicit grazing, it appears that the total number of Forest offences was slightly in excess of the previous year, the respective numbers being 239 against 236, and that the number of persons involved rose from 417 to 520. All the offences were, however, of a petty nature. Out of the 239 cases, 177 were compounded by the Forest Officer for a sum of R460, which averaged R2-9-7 per case and R1-6-6 per individual, against R1-10-8 per case and R0-14-0 per individual during the preceding year. The increase in average is attributed to the fact that most of the offenders have been twice convicted of the same offence.

9. Owing to the failure of rain and the consequent scarcity of fodder outside the Forest Reserves, there was a large increase in the number of cattle impounded for trespass on Forest grounds. The number of cattle impounded

during the year under report exceeded that of the last year by 800, and, consequently, the receipts from fines credited to the Forests rose from R416 to R508.

Forest Fires.

10. The Chief Commissioner is pleased to find that no fire occurred in any of the Forest Reserves during the year. Notwithstanding an increase in the area protected by special measures, the cost of protection fell from 53 pies per acre to 16 pies per acre—a reduction attributed to the fact that danger from fire was lessened by freer grazing, which rendered it unnecessary to burn lines and keep fire-watchers for more than one month.

Grazing.

11. There was a large increase in the number of cattle admitted to graze in the Forest Reserves. The total increase was 11,675 head, as compared with the preceding year. Of the total number of cattle admitted, 24,159 belonged to right-holders, 1,870 to outsiders and 330 grazed free. In the area open for grazing also there was an increase of 1,226 acres.

12. Mr. Hill, Officiating Inspector General of Forests, who visited Ajmere last November, expressed his opinion that improvement in the Ajmere and Merwara Forests was seriously retarded by the system of opening all Reserves every year to unrestricted grazing. His printed note on the subject, which was received in this office in January last, has been fully discussed in this Department letter No. 1227 S. of the 13th June last.

Grass-cutting.

13. There was a large decrease in the quantity of grass removed by right-holders. The number of bundles removed decreased from 1,692,560 bundles during 1889-90 to 304,440 during 1890-91. This decrease is due to the fact that cutting of grass was allowed only for one month, as it was expected that, owing to failure of rain during the last year, there would be scarcity of fodder outside the Reserves and that extensive grazing in the Forest Reserves would have to be allowed.

14. The value of the grass removed by right-holders is estimated at R21,011. Besides this, R2,671 worth of grass was sold to purchasers.

Natural Reproduction.

15. The results under this head were unsuccessful. This, however, was due to circumstances over which the Sub-Assistant Conservator of Forests had no control.

Artificial Reproduction.

16. The results, under this head, were not so good as they ought to have been. Out of 98 acres, in which sowing and planting operations were carried out, failure is reported in 43 acres owing to want of rains. The percentage of failure in sowing was much larger than in planting.

17. Expenditure under these two heads amounted to R929 against R729 in the previous year.

18. Meteorological operations were continued as usual and appear to have been carried out with due care. It is not necessary to point out that the value of these observations depends entirely on their accuracy.

19. The outturn from the Forests, including estimated value of the free grants, compares with that of the preceding year as follows :—

Class.	Timber.	Fuel.	Bamboos.	Minor produce.
	Cubic feet.	Cubic feet.	No.	R
Government Agency . .	...	...	...	...
Purchasers	2,331	1,87,027	2,931	4,593
Free Grants . . .	1,335	...	...	22,028
Right-holders . . .	...	...	...	4,229
Total for 1890-91 .	3,666	1,87,027	2,931	30,850
„ „ 1889-90 .	5,619	1,85,900	12,412	84,898
Difference .	—1,953	+1,127	—9,481	—54,048

The minor produce was, as usual, almost entirely grass. The decrease under Timber and Bamboos was due to falling off of the demand, and the decrease in Minor Produce was due to the fact that grass-cutting, which forms the main item of produce under this head, was allowed for only one month during the year.

Financial Results.

20. The financial results of the year compare favourably with those of the previous three years. The figures are—

	Receipts.	Expenditure.	Surplus or deficit.
1887-88	14,293	18,898	—4,605
1888-89	13,574	15,676	—2,102
1889-90	11,592	12,701	—1,109
1890-91	15,266	12,720	+2,546

The Receipts are the largest realised during the last four years, and for the first time are greater than the Expenditure.

General.

21. The importance of the Forest Reserves as sources of fodder-supply has been manifested in a very great degree, the year 1890 having been marked by an unusually deficient rainfall and consequently by a considerable scarcity of fodder outside the Forest Reserves. The Sub-Assistant Conservator took energetic measures to assist the people in preserving their cattle by allowing extensive grazings in the Forest Reserves. He also provided employment to people in distress by cutting new boundary lines and making new roads. Out of R2,000 allotted for this purpose R1,104 were spent up to the end of the year, affording employment to 13,441 persons.

22. On the whole, the year's administration has been very satisfactory and reflects credit on Mr. Hira Singh's good and economic management under the control of the District Officers.

ORDERS.

ORDERED, that a copy of this Resolution, together with the Commissioner's review and original report, with statements, be forwarded to the Government of India in the Revenue and Agricultural Department under cover of a separate letter.

Ordered also, that a copy of the above Resolution be forwarded to the Commissioner of Ajmere and Merwara for information and guidance and favour of communication to the Sub-Assistant Conservator of Forests.

Remarks by COLONEL J. BIDDULPH, S.C., *Commissioner and Conservator of Forests, Ajmere-Merwara, on the Progress Report of Forest Administration in Ajmere-Merwara for 1890-91.*

AREA.

State Reserves.

1. The area of the State Reserves was increased by 110 acres and now comprises 89,374 acres, or 140 square miles. A patch of *Soymida febrifuga* forest, locally called Bijasar, 60 acres in extent, was added to the Todgarh Reserve, while two new tracts of Jalia and Balad were taken up, with an aggregate area of 50 acres, for purposes of Forest plantation.

Village Reserves.

2. One more Village Reserve, with an area of 70 acres, was formed during the year. The number of such Reserves now stands at 9, and their area at 5,305 acres.

BOUNDARIES.

Boundary Pillars.

3. The boundary pillars of the Ajmere and most of the Merwara Forests were repaired, white-washed and renumbered at a total cost of R75-15-0.

Boundary-cutting.

4. Rupees 605 were expended on the cutting of 22 miles of boundary in the Dewair and Todgarh Reserves, 1½ miles, 100 feet wide, within the British territory and 22½ miles, 30 feet wide, along the Marwar border. The Marwar Forest Department simultaneously cut 30 feet within the limits of their jurisdiction, so that the total width of the latter line is 60 feet. These boundary lines will prove eminently useful as fire-lines and will facilitate the destruction of locusts coming from Marwar.

Fencing.

5. The Jalia and Balad tracts taken up during the year were fenced with *Euphorbia* at a cost of R49-6-0.

Surveys.

6. No surveys were undertaken during the year.

Working-Plans.

7. The subject of preparing a Working-Plan for the Ajmere-Merwara Forests will, it is stated, be taken up during the rainy season.

Annual Plans of Operations.

8. Nearly all the works sanctioned by the Conservator were carried out during the year.

Forest Offences.

9. The breaches of Forest rules numbered 239 against 236, and the number of persons involved 520 against 417 in the previous year.

10. Of 239 cases 177 were compounded by the Forest Officer and the last (62) were tried by Magistrates. Conviction was obtained in every case except one.

Cattle-Trespass.

11. The number of cattle impounded was 4,997, or 800 more than the last year. The receipts consequently rose from R416 tc R508 during the year.

Fire Conservancy.

12. It is satisfactory to note that no fire occurred this year. Of 89,374 acres, the total area of the Reserved Forests, 9,888 acres were protected from fire without the adoption of special measures. The cost of fire-protection amounted to R67, or ·16 pies per acre, which is ·37 pies per acre less than the previous year, for reasons given in paragraph 27 of the Sub-Assistant Conservator's Report.

GRAZING.

(*a*).—*During the hot season.*

13. Owing to the monsoons of 1889 being under the average, more extensive grazing was permitted than last year, the number of cattle admitted being 26,359 against 14,684 in the previous year. Of this number 24,159 cattle belonged to right-holders, 1,870 to outsiders, and 330 cattle grazed free, being allowed under the Record-of-rights.

(*b*).—*Other grazing.*

Free grazing for eight and twelve months was allowed to the same extent as last year.

Grass.

14. Besides R2,671 worth of grass sold to purchasers, 304,440 bundles of the estimated value of R21,011 were removed by right-holders free of payment, against 1,692,560 bundles removed in the previous year.

15. The cutting of grass was restricted to one month only, as it was considered that extensive grazing would be required on account of the monsoons last year having utterly failed, and again because it was feared that the people would abuse the privilege by selling the grass in the local markets instead of utilizing it for their own cattle, if permission were granted them for four months.

16. The sanction of the Government of India to credit the Forest Department with the sum R2,700 on account of sale-proceeds of grass supplied to the Military Department in 1889-90, and referred to in last year's Report, was received during the year, but the amount was not taken into credit this year. It will, however, be adjusted next year.

Natural Reproduction.

17. Natural reproduction was a total failure on account of a very poor rainfall, followed by a long drought and heavy grazing.

Artificial Reproduction.

18. The year was also not favourable for artificial reproduction. Out of 98 acres sown and planted 43 acres were struck off as failures. The percentage of failures in each case was—

Sowing	72 per cent.
Planting	5 „

The total expenditure incurred on these operations amounted to R929.

Roads and Bridges.

19. Rupees 499 were spent on the improvement and repairing of 19 miles of inspection paths in the Chang and Beliawas Reserves.

Buildings.

20. Rupees 39 were paid for repairs to buildings.

Meteorological Observations and other Experiments.

21. Meteorological observations and other experiments were carried on as usual. The results are recorded in Appendices A, B, C, and D, attached to this Report.

Outturn.

22. Three thousand six hundred and sixty-six cubic feet of timber, 187,027 cubic feet of fuel, and R30,946 worth of other produce were removed from the Forests.

Free grants.

23. These removals include the following free grants made to right-holders :—

	Cubic feet.	Estimated value. R
I.—Timber for household and agricultural purposes	1,335	90
II.—Minor produce—		
(*a*) Grass R21,011 (*b*) Grazing R 1,017	...	22,028
TOTAL		22,118

24. The financial results for the first time show a surplus of R2,546. The following table compares the Receipts and Charges for the two years :—

	1889-90.	1890-91.	Increase.
	R	R	R
Receipts	11,592	15,266	+ 3,674
Expenditure	12,701	12,720	+ 19
Surplus or Deficit	+ 1,109	+ 2,546	...

25. The increase in Receipts is visible under heads Grazing and Fodder-Grass, Other Minor Produce, and Fines and Forfeitures.

General Remarks.

26. The year 1890 was signalized by a very poor rainfall, resulting in a considerable scarcity of fodder. At first grass-cutting had to be permitted for one month in those Reserves which contained a plentiful supply of grass. Grazing was then allowed from 1st December, and about 50,000 cattle are said to have been pastured. Had there been no such reserves of fodder, it is plain that thousands of cattle would have perished. Facilities were also afforded to villagers enabling them to sell dry wood, &c., from Forest at nominal charges.

27. Of R2,000, sanctioned by the Government of India as an extra grant for expenditure on roads and boundary-cutting, R1,104 were spent up to the close of the year, thus :—

	R
Roads	499
Boundary-cutting	605
TOTAL	1,104

Both these works gave employment to 13,441 men, and proved very useful as famine relief-works.

The Sub-Assistant Conservator, Mr. Hira Singh, has worked exceedingly well and has given satisfaction.

Progress Report of Forest Administration in Ajmere-Merwara for the year 1890-91, by Mr. Hira Singh, *Sub-Assistant Conservator of Forests.*

Introduction.

Forest Conservancy at Abu.

1. At the request of the Resident, Western Rajputana States, the Sub-Assistant Conservator of Forests, in the month of June, inspected the Forests at Abu with a view to suggest means for improving the climate and sanitation of that station. A scheme for conserving an area of nine square miles round the sanitarium was submitted and received the sanction of the Agent to the Governor General, Rajputana.

Grass-pressing.

2. The Sub-Assistant Conservator also visited Changa Manga and Mean Mir in the Punjab for the purpose of studying the system of pressing grass adopted by the Military and Forest Departments, Punjab. The subject has been for the present dropped, owing to certain obstacles in the way of its being introduced into the Ajmere-Merwara Forests.

Inspector General of Forests' visit to Ajmere.

3. Mr. Hill, the Officiating Inspector General of Forests (accompanied by Dr. Voelcker, Consulting Chemist to the Royal Agricultural Society of England) paid a visit to Ajmere in November last. He inspected some forests in Ajmere and Merwara, and collected information regarding the question of grazing in the Reserved Forests of Ajmere-Merwara since the year 1880. He arrived at the conclusion that "improvement is being seriously retarded by the system of opening all Reserves every year to unlimited grazing." His suggestions, embodied in a printed note, have been received and discussed by the District Civil Officers.

Second visit of the Forest School to Ajmere.

4. The Forest students under the Deputy Director again visited Ajmere this year. Among other works they inspected (1) the coppiced areas at Mohwabir, Nagpahar, and Chang; (2) the Forest Plantation in Makerwali-Hokran; and (3) the boundary-cutting operations along the Marwar-Merwara border in Dewair.

Deputation, by the Ulwar State, of a Forester for practical training under the Forest Officer, Ajmere.

5. Babu Ram Chand, a Forest student from the Native State of Ulwar, who passed with a Forester's certificate at the Dehra Dun School, was deputed by that State for practical training under the Forest Officer at Ajmere. Babu Ram Chand reported his arrival on 1st November. He has shown himself active and industrious, and takes interest in the works entrusted to his charge.

Supply of grass to the Commissariat Department.

6. The Government of India's sanction to the payment, by the Military Department, of the sum of R2,700, the value of grass supplied them by this Department, and referred to in paragraph 9 of the last year's Annual Report, was received during the year. The amount will be adjusted in the accounts of the next year.

7. The two appendices, showing in detail the revenue and expenditure of the Ajmere and Merwara Districts separately, attached to the previous Reports, have been omitted from the present Report.

Discrepancy noticed in the Ajmere Forest Administration Report for 1889-90.

CHAPTER I.

AREA AND BOUNDARIES.

(1)—*Area.*

8. The following statement shows the changes in the areas managed by the Forest Department during the year 1890-91 :—

Changes during the year.

	Area in Acres.		
	At the commencement of the year.	Added during the year.	At the close of the year.
State Reserves	89,264	110	89,374
Village Reserves	5,235	70	5,305
Other areas (under plantation) . . .	39	.....	39
TOTAL .	94,538	180	94,718

The total area conserved for Forest purposes is thus 94,679 acres, or 148 square miles.

9. Explanation of areas added—

(*a*). *To State Reserves by Government Notification.*—

A patch of *Soymida febrifuga* forest, 60 acres in extent, was added to the Todgarh Forest Reserve, while two additional tracts, Jalia and Balad, were taken up, with an aggregate area of 50 acres, for purposes of Forest plantation.

(*b*). *To Village Reserves by private arrangements with the villagers.*—

One more reserve, with an area of 70 acres, was formed out of the Shamlat of Danta village and added to the eight Reserves already managed by the Forest Department.

10. In view of the remarks contained in paragraph 12 of the last year's Report, a register of cultivation was prepared. On receipt of information from the Revenue Department for some of the Ajmere Forests, which is still wanting, the area under cultivation will be totaled for each Forest, and the true area corrected therefrom. This has also delayed the final submission of the record-of-rights for the sanction of the Government of India.

Area of cultivated patches within Forest limits.

(2) *Boundaries.*

11. The boundary pillars of the Ajmere Forests and of the Chang, Kotra, Beliawas, Banjari-Mandlan, Amner, Todgarh, and Dewair Forests in Merwara were repaired, where necessary, white-washed and re-numbered at a total cost of ₹75-15-0.

Boundary pillars.

Boundary-cutting.

12. A length of about 22 miles was cut to demarcate the external boundary of the Dewair and Todgarh Forest Reserves. The following statement exhibits the length and breadth of the lines cleared, together with the expenditure incurred for each Reserve, separately:—

Forest.	Width.	Length cut.		Expenditure.
		Miles.	Chains (gunters).	
	Feet.			R
Dewair . { Within British territory .	100	1	44·80	231
Dewair . { Along the Marwar Frontier	30	10	32·47	137
Todgarh . Along the Marwar Frontier	30	9	73·47	237
Total .	...	21	70·74	605

A breadth of 30 feet was simultaneously cut by the Marwar Forest Department within their jurisdiction, increasing the total breadth to 60 feet.

13. These boundary lines, by burning an extra width of 20 feet on either side, will make a 100 feet broad fire-line which is, in ordinary cases, not only sufficient to prevent Forest fires from crossing but will greatly facilitate the destruction of locusts from the Marwar side.

CHAPTER II.

Surveys, Working-Plans and Annual Plans of Operations.

(*i*).—*Surveys.*

14. Owing to the press of other more important works, the survey of the pillars referred to in paragraph 16 of the last Annual Report could not be taken in hand. It will, however, be attended to next year.

(*ii*).—*Working-Plans.*

15. The necessary data for a Working-Plan were collected. The work will be taken up during the ensuing rainy season, as after the sowing and planting operations have been performed there will be little or nothing else left to be done.

(*iii*).—*Annual Plans of Operations.*

16. With a few unimportant exceptions, all the works proposed and sanctioned by the Conservator were carried out during the year.

CHAPTER III.

Protection and Improvement.

1.—Establishment.

17. The charge of the division was held by Mr. Hira Singh, Sub-Assistant Conservator of Forests.

Executive establishment.

18. Babu Nandmall, Forest Ranger in charge of the Todgarh Range, continued to give satisfaction.

Protective establishment.

19. There is nothing particular to mention about the members forming the Protective establishment. With a few exceptions they have all worked well.

20. Babu Ansaf Ali, Forest Clerk, continues to work excellently. His accuracy of meteorological computations is deserving of special notice. Mir Abdul Karim, Office Munshi, retired on pension at the close of the year, Munshi Ram Narain, sub. *pro tem.*, Ahlmud to the Deputy Magistrate's Court at Kekri, having taken his place.

Office establishment.

2.—*General Protection and Breaches of Forest Rules.*

21. The total number of Forest offences shows a slight increase of three over the past year:—

Summary of Forest offences.

	1889-90.	1890-91.	Difference.
Cases taken into Court	31	62	+31
Cases compounded by Forest Officer . . .	205	177	—28
TOTAL .	236	239	+3
Convictions .	235	238	...

22. Out of 62 cases taken into Court, 57 were on account of unauthorized grass and wood-cutting, and 5 for illicit grazing.

Cases tried by Magistrates.

23. The following table compares the results of cases compounded by the Divisional Officer during the two years:—

Cases compounded.

YEAR.	CASES COMPOUNDED.		AVERAGE COMPENSATION.	
	No.	Amount of compensation.	Per case.	Per man.
		R	R a. p.	R a. p.
1889-90	205	342	1 10 8	0 14 11
1890-91	177	460	2 9 7	1 6 6
Difference .	—28	+118	+0 14 11	+0 7 7

The increase in the average amount of compensation awarded is to be attributed to most of the offenders having been twice convicted of the same offence.

24. The following statement shows a comparison in the number of cattle impounded for trespass during the two years:—

Cattle-trespass.

YEAR.	NUMBER OF CATTLE.			TOTAL.
	Cows and buffaloes.	Goats and sheep.	Other cattle.	
1890-91	3,207	1,618	172	4,997
1889-90	2,522	1,604	71	4,197
Increase .	685	14	101	800

25. The failure of the rains and the consequent scarcity of fodder outside the Government Reserves accounts for the large increase in the number of cattle impounded. Half the pound fines credited to "Forests" amounted to R508 against R416 in the previous year.

3.—*Forest Fires.*

26. The results of fire conservancy for the two years may be thus compared:—

Results of fire-conservancy.

		1890. Acres.	1891. Acres.	Difference. Acres.
Area actually protected.	(1) By special measures	79,419	79,486	+67
	(2) By the ordinary establishment	9,838	9,888	+50
Area burnt		7	*Nil*	−7
Total area attempted to be protected		89,264	89,374	+110*

* Increase due to the new areas taken up during the year, *vide* paragraph 9 of this Report.

27. The total cost of fire-protection was R67, or 16 pies per acre against 53 pies per acre last year. Nothing was spent for the burning of fire-lines, and fire-watchers were entertained for one month only, as heavy grazing everywhere reduced the danger from fire to a minimum and did not justify their being kept for a further period. To both these causes may be ascribed the reduced cost of fire-protection.

Cost of fire-protection.

28. It is most satisfactory to note that no fires occurred during the year. No fire originated within the Government Reserves, and none crossed from Marwar side, which last was due to the successful management of the adjacent Marwar Forests.

Fires.

4.—*Grazing and Fencing.*

29. The number of cattle admitted for grazing last hot weather shows a total increase of 11,675 head over the previous year:—

Grazing.

District.	Area closed to grazing.	Area open to grazing.	Number of cattle.			Total.	Acreage per head
			Right-holders.	Outsiders.	Free.		
	Acres.	Acres.				Acres.	Acres.
Ajmere	...	17,670	8,964	695	330	9,989	1·77
Merwara	...	71,594	15,195	1,175	...	16,370	4·37
Total	...	89,264	24,159	1,870	330	26,359	3·39
Last year	1,226	88,038	12,988	1,366	330	14,684	5 99
Difference	−1,226	+1,226	+11,171	+504	...	+11,675	−2·60

30. The monsoon of 1889 was below the average, and the scarcity of fodder outside the Government Reserves was severely felt. The consequence was that all the forests had to be thrown open to grazing a month earlier than usual, *viz.* from 1st February.

Reason of extensive grazing.

31. Free grazing for eight and twelve months was allowed to the extent permitted last year.

Free grazing.

32. To prevent cattle-trespass, the Forest tracts of Jalia and Balad taken up during the year were fenced with *Euphorbia*. Eighty chains round the former and 25 round the latter were constructed at an aggregate cost of R49-6-0. Repairs to stone-walling were done by the graziers themselves, and no expenditure was incurred on that account.

Fencing.

5.—*Natural Reproduction.*

33. Natural reproduction by seed entirely failed by reason of scanty rainfall, followed by protracted drought and heavy grazing.

6.—*Artificial Reproduction.*

34. Sowing and planting operations extended over 98 acres, of which 43 acres of sowings had to be struck off the Register as failures. The net addition to the area was therefore 55 acres during the year. The results of these operations are shown in the following statement:—

Area sown and planted.

Forest.	Sowing or Planting.	Species.	Area sown, in acres.	Number of plants put out.	How sown or planted.	Distance apart.	Success.
Nagpahar .	Planting	Mango plants . .	...	125	In pits .	150′ apart .	100 plants alive.
Maherwali-Hokran.	Sowing	Khejra, arinja and khair seed.	5	...	(On sand mounds as done last year.)		25 per cent.
Ditto . .	Planting	Mango, shisham and jaman plants.	...	621	In pits .	15′ apart .	615 alive.
Danta . .	Sowing	Khair and khejra seed .	5	...	In patches .	5′ apart .	30 per cent.
Ditto . .	Planting	Four hundred and eighty bamboos, 316 bar, 101 shisham and 117 other plants.	...	1,014	In pits .	20′ apart .	935 alive
Kotra . .	Sowing	Khair seed . . .	15	...	In patches .	5′ apart .	30 per cent.
Mohwabir .	Ditto	Nim, khair, ber and khejra seed.	25	...	Partly by dibbling and partly in patches.	7′×7′ .	20 per cent.
Madar Hill .	Planting	Sandal plants . .	...	50	Under shade of trees		42 alive.
Srinagar .	Sowing	Khair, arinja, babul .	10	...	Broad cast .	...	Utter failure.
Ditto . .	Planting	Shisham and jaman .	...	106	In pits .	20′ apart .	50 alive.
Chang . .	Ditto	Ninety-three mangoes, 98 kachnar, 57 bahera, 52 cheril, and 68 other plants.	...	368	In „ .	„ .	360 alive.
		TOTAL .	60	2,284			
		Failures . .	43	128			
		Percentage of failures .	72	5			

35. Sowings in Ajmere-Merwara are entirely dependent on rain. The rains this year being exceptionally bad, a small proportion only of the seed sown germinated. The seedlings had again to contend against drought which followed and died off in large numbers. Hence the large percentage of failures.

36. Very favourable results were, however, obtained in planting. The plants were put down into the ground in earthen pots (or *gamlas*) which protected the plants against the ravages of wild rats and the attacks of white ants, and also gave them the full benefit of the water given to them—advantages which are not secured by the ordinary ball planting in sandy soils.

37. The cost of sowing and planting, including the maintenance of nurseries, amounted to R929 against R729 in the previous year.

The increase in expenditure is chiefly due to the deepening of nursery wells which dried up during the year and to the cost of pots purchased for transplanting.

7.—*Exotics and Nurseries.*

38. *Exotics.*—Bamboo seed, which had been received from the Central Provinces last year, was again sown in the Pushkar Nursery this year. The seed germinated very nicely. At present there are about 200 plants which have attained a height of 2 to 5 feet in the course of a single year.

39. *Nurseries.*—The Nurseries at Pushkar Bir and Sendra were maintained as usual.

The following is the number of plants in each of the Nurseries ready for transplanting during the rains:—

	No. of plants.
Pushkar Nursery	3,200
Bir Nursery	1,100
Sendra Nursery	900
TOTAL	5,200

8.—*Communications and Buildings.*

40. The total cost under this head was:—

	R
(*a*) Roads and Bridges	499
(*b*) Buildings	39
(*c*) Other works	250
TOTAL	788

42. *Roads and Bridges.*—The amount of R499 was spent on the improvement and repairs of Forest inspection paths in the following blocks:—

		Length in miles.	Cost. R
Merwara	Beliawas	14	339
	Chang	5	160
	TOTAL	19	499

The average breadth of the path is 8 feet.

42. *Buildings.*—No new *chowkies* were made during the year. The amount of R39 was spent on repairs to—

	R
Forest *chowkies*	20
Mali's huts in the Pushkar Nursery	19
TOTAL	39

43. *Other Works.*—Rupees 250 spent under this head include—

	R
(1) Pay of 2 Meteorological Observers at Ajmere and Raoli	229
(2) Repairs to cages and sheds	17
(3) Miscellaneous	4
TOTAL	250

CHAPTER IV.

METEOROLOGICAL OBSERVATIONS AND OTHER EXPERIMENTS CONDUCTED UNDER FOREST SUPERVISION.

1.—*Rainfall.*

44. Appendix A shows that the rainfall registered during the year was considerably below the average of the past five years and still much less than that of the last year.

45. As before, the highest difference was noted in the case of the Nagpahar Reserve, *i.e.* 3·87 inches in favour of the Forests and the least in the Rajgarh Reserve, *viz.* ·37 inches.

Rainfall in and out of the Forests.

2.—Temperature and Humidity.

46. Meteorological observations at the Ajmere Nursery and at Mohwabir and Jaspalan were taken, as usual. The results are recorded in Appendices B, C, and D.

3.—Water Level in Wells.

Danta and Rajgarh series.

47. All the wells in the Danta and Rajgarh Reserves dried up during the year.

Mohwabir series.

48. In Mohwabir, Well No. 3 also dried up. Well No. 1 showed 5·47 feet and Well No. 2, 3·74 feet less water than last year.

4.—Water-supply in Tanks.

49. The following statement, received from the Engineering Department, is appended to show the storage of rain-water in the Danta tank for the past four years:—

	1887.	1888.	1889.	1890.
Rainfall (in inches)	15 61	11·64	13·65	11·00
Quantity of water fallen into catchment area (in million C. ft.)	98·50	71	83	63·90
Quantity collected in tank (in million C. ft.) . .	1·33	1·04	1·35	·046
Percentage of rainfall collected (in million C. ft.) .	0·01	·0015	·0016	·00072

CHAPTER V.

YIELD AND WORKING.

Summary of Removals of Forest Produce.

Timber and Fuel (Form No 54).

50. The following statement compares the outturn of timber and fuel for the present and the past year:—

	Timber.		Fuel.	
	1889-90.	1890-91.	1889-90.	1890-91.
	C. ft.	C. ft.	C. ft.	C. ft.
Removed departmentally	...	...	208	...
,, by purchasers	3,474	(a) 2,331	185,692	187,027
,, by free grantees	2,145	1,335	...	...
TOTAL .	5,619	3,666	185,900	187,027

Minor Produce (Form No. 55).

51. The money value of minor produce removed during the two years is thus compared:—

	Bamboos.		Grass and Grazing.		Other minor produce.		TOTAL.	
	1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.
	R	R	R	R	R	R	R	R
Removed by purchasers . .	197	(a) 96	2,105	3,646	377	947	2,679	4,689
,, by free grantees .	...	...	80,344	(b) 22,028	...	...	80,344	22,028
,, by right-holders .	..		2,072	4,229	...	...	2,072	4,229
TOTAL .	197	96	84,521	29,903	377	947	85,095	30,946

Note.—Explanation of decreases:—
(a) due to the falling off of demand.
(b) See paragraph 58 of this Report

(*i*).—*Departmental Operations.*

52. No departmental operations were undertaken during the year.

(*ii*).—*Removal of Produce by Purchasers.*

53. One thousand nine hundred thirty-seven dandas, 293 dingars, 83 saler trees and 11 bundles of firangan were sold to non-right-holders from certain forests in Merwara. The amount realized was R72.

Timber.

Firewood.

54. Ninety-three thousand and twelve cubic feet of green and 94,015 cubic feet of dry firewood were sold for R5,063.

(*a*) *Greenwood.*—The following areas were marked for coppicing and the wood sold to contractors :—

	Forests.	Area cut, in acres.	Rate. At	Rate. per	Quantity removed. Camel-loads.	Quantity removed. Cubic feet.	Amount realized.	Remarks.
			R a. p.				*R*	
Merwara Ajmere.	Mohwabir	10	8 8 0	Acre	...	1,500	85	Rates per acre, same as last year.
	Madar Hill	10	6 0 0	Do.	...	1,400	60	
	Nagpahar (Pokar side)	10	10 0 0	Do.	...	1,750	100	
	Do. (Kotra side)	10	8 0 0	Do.	...	1,500	80	
	Chang	100	0 9 9	Camel-load	2,462	35,000	1,500	3 pies per camel-load, more than last year.
	Bagri	150	0 5 9	Do.	4,174	51,862	1,500	2 pies per camel-load,
	Total	290	...	...	...	93,012	3,325	

(*b*) *Dry wood.*—The following quantities of dry fallen wood were removed in both Districts by permits or by auction, the amount realized being R1,738 :—

District.	By permits. Head-loads.	By permits. Donkey-loads.	By auction.	Total quantity.	Amount.	Remarks.
	No.	No.	C. ft.	C. ft.	*R*	
Ajmere	3,227	...	19,040	26,785	823	
Merwara	13,347	4,477	1,172	67,230	915	
Total	16,574	4,477	20,212	94,015	1,738	

Note.—1 head-load = 2·4 c. ft.
1 donkey-load = 7·6 c. ft.

55. Two thousand nine hundred thirty-one bamboos were sold from the following Forests, against 12,412 sold last year :—

Bamboos.

		No.	Total. No.	Value realized. *R*
Ajmere	Nagpahar	481	 881	... 55
	Taragarh	400		
Mewara	Todgarh	350	 2,050	... 41
	Dewair	1,700		
	Total		2,931	96

The rates per 100 bamboos were enhanced from R1-7 and R2-8 per cent. to R2 and R6-4 per cent.

Grass and grazing.

56. The revenue realized from grass and grazing was:—

Year.	Grass.	Grazing.	Total.	Remarks.
	R	R	R	
1889-90 .	1,469	636 (*a*)	2,105	(*a*) Includes R161 grazing dues, Dewair Pass.
1890-91 .	2,671	975 (*b*)	3,646	(*b*) Includes R155 grazing dues, Dewair Pass.
Total .	+1,202	+339	+1,541	

Other minor produce.

57. Revenue from this source, as compared with the past year, was:—

	1889-90.	1890-91.	Remarks.
	R	R	
Fruits	156	* 645	* Includes R550 by sale of Pushkarbag mangoes.
Honey and wax . . .	103	107	
Dhâk leaves	106	191	
Miscellaneous . . .	12	4	
Total .	377	947	

which shows an increase of R570 in favour of the year.

iii.—Free grants.

58. The following free grants were made to right-holders in the Government Forest Reserves:—

Description of produce.	No. or quantity.	Estimated Value.	
		1890-91.	1889-90.
		R	R
Wood for household purposes . . .	1,303(cub f)	82	112
Wood for agricultural purposes . . .	32(cub. f.)	8	19
Grass (bundles)	304,440	21,011	79,338
Grazing	...	1,017	1,006
Total .	...	22,118	80,475

Grass-cutting was allowed for one month in certain Reserves only, for reasons elsewhere explained. Hence the decrease in the number of grass bundles removed and the corresponding value estimated.

IV.—Produce removed by Right-holders.

59. Twenty-four thousand one hundred and fifty-nine cattle, including cows and buffaloes, were permitted to graze for five months from 1st February to end of June, at six pies per cow and one anna per buffalo per month. The revenue received amounted to R4,229.

CHAPTER VI.

Financial Results.

60. The financial results of the year, as contrasted with those of the preceding three years are as follow :—

Year.	1887-88.	1888-89.	1889-90.	1890-91.
	R	R	R	R
Revenue	14,298	13,574	11,592	15,266
Expenditure	18,898	15,676	12,701	12,720
Surplus or Deficit	—4,605	—2,102	—1,109	+2,546

The receipts are the largest yet obtained and have for the first time exceeded the expenditure by leaving a surplus of R2,546.

Revenue.

61. The revenue was R3,674 in excess of the previous year, and is thus accounted for—

	R
Increase under—	
II*d*.—Grass and Grazing	3,698
II*e*.—Other Minor Produce	570
V*a*.—Fines and Forfeitures	202
TOTAL INCREASE	4,470
Decrease under other sub-heads	796
NET INCREASE	3,674

Expenditure.

62. The total expenditure was about the same as last year :—

Year.	1889-90.	1890-91.	*Plus* or *Minus*.
	R	R	R
A.—Conservancy and Works	1,444	2,763	+1,319
B.—Establishment	11,257	9,957	—1,300
TOTAL . . .	12,701	12,720	+19

The increase in "A.—Conservancy and Works" was due to greater sums having been spent on roads, demarcation and plantation-works connected with the improvement of the Forests. "B.—Establishment" shows a saving of R1,300.

63. The Receipts and Charges for the past two years may be thus arranged under the three main heads—

Year.	I.—Timber and other departmental operations.		II.—Other sources.		III.—Formation, protection and improvement of Forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.		Receipts.	Charges.
	₹	₹	₹	₹	₹	₹	₹
1889-90 . . .	14	5	11,578	4,518	8,178	11,592	12,701
1890-91 . . .	...	...	15,266	3,983	8,737	15,266	12,720

General Remarks.

64. The year 1890 has been a most unfavourable year as regards rainfall. The total rainfall was about half the average in Ajmere and less in Merwara. The result was inevitably a very poor grass and grain crop. The distress began to be felt early in November more severely in the Todgarh Tahsil than in other parts of the District. The resources of fodder-supply outside the Government Reserves were soon exhausted and the cattle began to starve. In a state of despair the people resorted, as the only available means of support, to the cutting and selling of wood (for fuel or charcoal) from the village Shamlat lands or, where this was not practicable, emigrated. But emigration was soon checked. Relief works were opened through the agency of the Public Works Department, and then came the Forest Department to discharge the function for which it was specially created. In order that the Reserves might be utilized to their fullest advantage the following procedure was adopted.—In Reserves, which contained an abundant supply of grass, the cutting of grass was first permitted. The permission was given for the month of November only, instead of for four months, as it was considered that the people would abuse the privilege by selling the grass, instead of using it for their own cattle. The Reserves were then opened to grazing, and about fifty thousand cattle were admitted. The Government Reserves (and the same remarks apply with equal force to the Village Reserves) have been the means of saving the lives of thousands of cattle, which, in the absence of such areas, would have starved and perished. Further facilities were afforded by issuing permits at very nominal rates per head-load for the manufacture of charcoal from the old dead stumps of *khair* (*Acacia Catechu*), the preparation of tannin from the bark of *dausan* (*Rhus mysorensis*), and the leaves of *goriadhan* (*Anogeissus latifolia*), the sale of dry fallen wood for fuel, and *saler* (*Boswellia thurifera*) to make cups and plates. This concession was readily availed of by the villagers.

The year 1890.

65. An additional grant of ₹2,000 was sanctioned by the Government of India in the Revised Budget Estimate for the year to be spent on roads and boundary lines, and of this amount ₹1,104 were spent up to the close of the year:—

	₹
499	on roads.
605	for cutting boundary along Marwar border.
Total .	1,104

Both these works, proved useful as famine relief works as they gave employment to 13,441 men.

Form No. 49.

Area of Reserved Forests, 1890-91.

Division.	Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 1st March 1891.		No. and date of Notification of addition or transfer.	Remarks.
				Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Ajmere-Merwara		Ajmere	Mohwabir and Madar Hill	2,736	4	...	...	2,736	4		
			Nagpahar	2,479	4	...	...	2,479	4		
			Taragarh Valley	1,226	2	...	...	1,226	2		
			Makerwali-Hokran	2,675	4	...	...	2,675	4		
			Srinagar	3,623	6	...	...	3,623	6		
			Rajosi	1,152	2	...	...	1,152	2		
			Danta	1,580	3	...	...	1,580	3		
			Rajgarh	2,199	3	...	...	2,199	3		
			Total	17,670	28	...	...	17,670	28		
		Merwara	Chang	2,947	5	...	...	2,947	5		
			Dilwara and Chang-Gate Birs	281	...	...	...	331	1	No. 234S. of 19th February 1891.	
			Jalia and Balad	...	...	50	...				
			Borwar-Kotra and Siliberi	4,660	7	...	...	4,660	7		
			Sheopura	2,771	4	...	...	2,771	4		
			Beliawas	3,336	5	...	...	3,336	5		
			Anspahar	1,282	2	...	...	1,282	2		
			Todgarh	33,964	53	60	...	34,024	53	No. 2203 S. of 29th July 1890.	
			Dewair	12,968	20	—	...	12,968	20		
			Amner	4,654	7	...	...	4,654	7		
			Banjari-Mandlan	4,731	8	...	...	4,731	8		
			Total	71,594	111	110	...	71,704	112		
			GRAND TOTAL	89,264	139	110	...	89,374	140		

Form No. 50.

Register of Breaches of Forest Rules during 1890-91.

Forest Division.		Cases pending from 1889-90.	New Cases of the Year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
			Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest-produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
									Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Ajmere-Merwara	A	...	...	57	5	...	62	62	61	192	1	1	62	193	...
	B	...	...	80	97	...	177	177	177	327	...	...	177	327	...
Grand Total	A	...	...	57	5	...	62	62	61	192	1	1	62	193	...
	B	...	...	80	97	...	177	177	177	327	...	...	177	327	...
	C	...	...	...	...	...	...	...	...	...	...	...	...	...	...

N.B.—A.—Means cases taken into Court.
B.—Means cases disposed of under the Ajmere Forest Regulation.
C.—Means undetected cases.

Form No 51.

Area of Forest Tracts protected from Fire during the dry Season 1891.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1890.	During dry season of 1891.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
	Area protected by special measures.						R	
Ajmere-Merwara	Nagpahar	1880	2,479	2,479	...	2,479	5	
	Taragarh Valley	1874	1,226	1,226	...	1,226	4	
	Rajosi	1880	1,152	1,152	...	1,152	5	
	Danta	1882	1,580	1,580	...	1,580	4	
	Rajgarh	1884	2,199	2,199	...	2,199	...	
	Chang	1881	2,947	2,947	...	2,947	...	
	Sheopura	1882	2,771	2,771	...	2,771	...	
	Beliawas	1874	3,336	3,336	...	3,336	10	
	Todgarh	1874	33,957	34,024	...	34,024	29	
	Forwar-Kotra	1882	4,137	4,137	...	4,137	...	
	Anspahar	1877	1,282	1,282	...	1,282	...	
	Dewair	1881	12,968	12,968	...	12,968	10	
	Banjari-Mandlan	1884	4,731	4,731	...	4,731	...	
	Amner	1884	4,654	4,654	...	4,654	...	
	Total	...	79,419	79,486	...	79,486	67	
	Area protected without the adoption of special measures.							
Ajmere-Merwara	Mohwabir and Madar Hill	1876	2,736	2,736	...	2,736	...	
	Srinagar	1876	3,623	3,623	...	3,623	...	
	Makerwali-Hokran	1884	2,675	2,675	...	2,675	...	
	Dilwara and Chang-Gate Birs	1876	281	281	...	281	...	
	Siliberi	1884	523	523	...	523	...	
	Jalia and Balad	1891	...	50	...	50	...	
	Total	...	9,838	9,888	...	9,888	...	
	GRAND TOTAL	...	89,257	89,374	...	89,374	67	

Form No. 52.

Area of Plantations, 1890 91.

Division.	Name of Plantation.	Area in Acres				Receipts	Charges	Remarks.
		On 1st April 1890	Added during the year	Excluded during the year	Area on 31st March 1891			
	Area taken up under the Regulation.						R	
	Mohwabir and Madar Hill	79	29	21	87		25	
	Nagpahar	21	4	...	25	...	...	
	Taragarh Valley	66	..	...	66	...	...	
	Srinagar	28	15	12	31	..	...	
	Danta	32	8	6	34	...	137	
	Rajgarh	5	...	...	5	...	...	
	Makerwali-Hokran	38	25	4	59	..	129	
	Dilwara and Chang-Gate Birs	80	...	...	80	...	...	
	Chang	22	7	...	29	...	17	
	Borwar-Kotra	45	10	...	55	...	...	
	Sheopura	30	...	...	30	...	...	
	Peliawas	12	..	...	12	...	...	
	Banjari-Mandlan	3	...	...	3	...	...	
	Dewair	47	...	..	47	...	...	
Ajmere-Merwara	*Area not taken up under the Regulation.*							
	Shikast Masjid	6	...	...	6	...	...	
	Beawar Parade Plantation	8	...	...	8	...	...	
	Nurseries.							
	Puskar Nursery	4	...	...	4	563	275	
	Bir do.	4	...	...	4	33	127	
	Sendra do	1	...	...	1	4	219	
	Total	531	98	43	586	600	929	

Form No. 54.

Outturn (in cubic feet, solid) of Timber and Fuel during the year 1890-91, and Agency of Exploitation.

Division.	Timber in the rough, Logs					Timber in the rough, Poles.					Sawn, or squared Timber.					Miscellaneous.					Fuel.					Total.
	Government.	Purchasers.	Free grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.	Outturn.
	C. ft.	C. ft	C. ft.	C. ft.	C. ft.	C. ft	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
I.—Reserved Forests.																									
Ajmere-Merwara . . .	...	...	...	...	...	...	2,287	1,108	...	3,395	...	...	55	...	55	...	44	172	...	216	...	1,87,027	...	...	1,87,027	1,90,693
Total .	...	...	...	...	...	...	2,287	1,108	...	3,395	...	...	55	...	55	...	44	172	...	216	...	1,87,027	...	....	1,87,027	1,90,693
II.—Protected Forests.																									
Nil.																									
III.—Unclassed Forests.																									
Nil.																									

Charcoal should be shown by its equivalent in fuel, the quantity of wood consumed in producing it being entered in cubic feet, solid.

Form No. 55.

Outturn of Minor Forest Produce during the year 1890-91.

Division.	Description of Produce.	Produce removed or utilized										Remarks.
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.		
		Quantity.	Value	Quantity	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
			R		R		R		R		R	
Ajmere-Merwara	Jamboos (No.)	...	...	2,931	96	...	...	...	...	2,931	96	
	Fodder grass (maunds)	..	...	2,176	1,191	...	...	...	...	2,176	1,191	
	Ditto (head-loads)	...	...	4,706	174	3,04,440	21,011	...	...	..	21,185	
	Ditto (by auction)	...	...	...	1,272	...	...	...	...	...	1,272	
	Munj grass (do.)	...	...	...	34	...	...	...	...	...	34	
	Grazing, 5 months (cattle)	...	...	1,870	820	330	52	24,159	4,229	26,359	5,101	
	Ditto, 8 „ (acres)	...	...	...	...	1,117	279	...	...	1.117	279	
	Ditto, 12 „ (cattle)	...	...	...	...	915	686	...	...	915	686	
	Grazing dues, Dewair Pass	...	...	...	155	...	...	...	...	...	155	
	Fruit (by auction)	...	...	...	645	...	...	...	...	...	645	
	Honey and wax (do.)	...	...	...	107	...	...	...	...	...	107	
	Dhâk leaves (do.)	...	...	...	191	...	...	...	...	...	191	
	Miscellaneous	...	...	...	4	...	...	...	...	...	4	
	Total	...	...	...	4,689	...	22,028	...	4.229	...	30,946	

Form No. 58.

Summary of Revenue of the different Divisions during 1890-91.

RECEIPTS.

	R	a.	p.
I.—Timber and Other Produce removed from the Forests by Government Agency—			
a. Timber	...		
b. Firewood and charcoal	...		
c. Bamboos	...		
d. Sandal-wood	...		
e. Grass and other minor produce	...		
II.—Timber and Other Produce removed from the Forests by Consumers or Purchasers—			
a. Timber	71	8	3
b. Firewood and charcoal	5,063	2	0
c. Bamboos	95	12	6
d. Grazing and fodder grass	7,875	1	11
e. Other minor produce	947	8	0
III.—Drift and Waif Wood and Confiscated Forest Produce	...		
IV.—Revenue from Forests not managed by Government—			
a. Duty on foreign timber and other forest produce	...		
b. Revenue from shared and private forests	...		
V.—Miscellaneous—			
a. Fines and forfeitures	980	2	3
b. Refunds	...		
c. Other sources	233	5	0
Total Receipts	15,266	7	11

Summary of Expenditure of the different Divisions during 1890-91.

A.—CONSERVANCY AND WORKS.

I.—Timber and Other Produce removed from the Forests by Government Agency—	
a. Timber	...
b. Firewood and charcoal	...
c. Bamboos	...
d. Sandal-wood	...
e. Grass and other minor produce	...
II.—Timber and Other Produce removed from the Forests by Consumers or Purchasers	...
III.—Drift and Waif Wood and Confiscated Forest Produce	...
IV.—Revenue from Forests not managed by Government—	
a. Duty on foreign timber and other forest produce	...
b. Revenue from shared and private forests	...

	₹	a.	p.
V.—Rent of Leased Forests and Payments to Shareholders in forests managed by Government	...		
VI.—Live Stock, Stores, Tools and Plant—			
a. Purchase of cattle	...		
b. Feed and keep of cattle	30	1	0
c. Purchase of stores, tools and plant	19	1	0
VII.—Communications and Buildings—			
a. Roads and bridges	499	1	9
b. Buildings	39	6	0
c. Other works	249	14	6
VIII.—Demarcation, Improvement and Extension of Forests—			
a. Demarcation	680	12	6
b. Compensation for land and rights	...		
c. Surveys and working-plans	...		
d. Sowing and planting	928	8	11
e. Protection from fire	267	6	3
f. Other works	49	6	0
IX.—Miscellaneous—			
a. Refunds	...		
b. Law charges	...		
c. Other charges	...		
Total A.—Conservancy and Works .	2,763	9	11

B.—Establishments.

I.—Salaries—			
a. Conservators	...		
b. Superior officers	2,350	0	0
c. Subordinate forest and depôt establishments	4,672	9	6
d. Office establishments	1,176	0	0
e. Deputation and special allowances	...		
II.—Travelling Allowances—			
a. Conservators	...		
b. Superior officers	845	15	4
c. Subordinate forest and depôt establishments	336	15	10
d. Office establishments	30	1	2
III.—Contingencies—			
a. Stationery	8	7	6
b. Carriage of tents and records	122	14	2
c. Rents, rates and taxes	180	0	0
d. Pay of police guards	...		
e. Official postage	65	12	6
f. Sundries	168	1	9
Total B.—Establishments .	9,956	13	9
GRAND TOTAL OF EXPENDITURE . .	12,720	7	8

J. C. BOSE,

Assistant Comptroller General (Forests).

Form No 59.

Dr. *Account Current for the year 1890-91.* Cr.

	R	a.	p.	R	a.	p.
To Cash Balance	...			16	8	6
„ VIII.—Assessed Taxes—						
Income Tax—Deductions from salaries .	...			92	14	8
„ Revenue as per Annual Summary, Form No. 58	...			15,266	7	11
„ Deposits	...			300	0	0
„ Forest Cash Remittances—Local—						
Forest cheques drawn	12,604	0	0	...		
Inter-Divisional Transfers . . .	...			...		
				12,604	0	0
„ Advances recoverable	...			83	5	2
„ Suspense	...			10	0	0
TOTAL .	...			28,373	4	3

	R	a.	p.	R	a.	p.
By Expenditure as per Annual Summary Form No. 58	...			12,720	7	8
„ Deposits	...			300	0	0
„ Forest Cash Remittances—Local—						
Remittances to Treasuries . . .	15,266	7	11	...		
				15,266	7	11
„ Advances recoverable	...			77	12	10
„ Cash Balance	...			8	7	10
TOTAL .	...			28,373	4	3

J. C. BOSE,

Assistant Comptroller General (Forests).

Form No. 61.

Outstandings and Liabilities on account of Contractors and Disbursers for 1890-91.

Division.	Department Debtor.			Department Creditor.			Balance Due		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	
Ajmere . . .	.....	83 5 2	83 5 2	5 9 3	77 12 10	83 6 1	0 0 11	.....	

J. C. BOSE,
Assistant Comptroller General (Forests).

Form No 62.

Financial Results of the year 1890-91.

Division.	Timber and Other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	℟	℟	℟	℟	℟	℟	℟	
Ajmere-Merwara . .	...	..	15,266	3,983	8,737	15,266	12,720	

APPENDIX A.

Statement showing rainfall registered during the calendar year 1890.

Calendar Year.	Mohwa Bir.				Madar Hill		Bajrangarh.		Nagpahar.				Danta.				Rajgarh.				Dilwara Bir.				Remarks.
	Inside Forest.		Outside Forest.						Inside Forest.		Outside Forest.		Inside Forest.		Outside Forest.		Inside Forest.		Outside Forest.		Inside Forest.		Outside Forest.		
	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	Inches.	Ct.	
January	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	
February	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	
March	...	11	...	10	...	14	...	11	...	...	...	...	...	...	...	...	...	20	...	19	...	...	...	...	
April	...	17	...	15	...	6	...	4	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	
May	...	98	1	44	...	96	...	72	...	32	...	21	...	11	...	10	...	30	...	29	...	...	...	...	
June	1	87	1	55	1	87	1	88	3	55	2	29	1	70	1	56	4	13	3	99	...	49	...	42	
July	4	29	4	33	5	40	3	35	4	35	3	8	4	87	3	67	2	3	1	96	3	90	3	67	
August	4	34	4	22	4	76	3	70	5	28	5	2	5	7	6	6	5	47	5	29	4	38	4	12	
September	1	46	1	28	2	6	1	33	1	39	...	80	1	80	1	44	1	40	1	40	3	36	3	17	
October	...	39	...	39	1	45	...	26	...	...	...	...	...	15	...	10	...	40	...	45	...	...	...	...	
November	...	...	...	4	...	...	..	3	...	8	...	6	...	...	...	...	...	21	...	20	...	25	...	22	
December	1	66	...	83	...	68	...	60	...	86	...	50	...	10	...	11	...	...	...	...	...	36	...	31	
Total	15	27	14	33	17	38	12	2	15	83	11	96	13	80	13	4	14	14	13	77	12	74	11	91	
Total for 1889	25	35	23	93	25	97	21	99	27	45	20	76	16	71	16	40	25	78	25	47	21	82	2[illegible]	89	
Average of 5 years, from 1885 to 1889	24	43	22	8	21	58	18	81	25	31	19	15	17	65	16	40	16	90	16	52	19	12	17	38	

APPENDIX B.

METEOROLOGICAL OBSERVATIONS (STATION A).

Results of Meteorological Observations conducted at the Ajmere Nursery, 1,640 feet above sea-level. Observatories of the standard pattern. Cages with instruments 4 feet above ground.

Calendar Year 1890.	Dry Minimum.		Dry Maximum.		Daily Mean.		Mean Vapour Tension.						Mean Relative Humidity.						Rainfall in inches.
							Under trees.			Outside trees.			Under trees.			Outside trees.			
	Under trees.	Outside trees.	Under trees.	Outside trees.	Under trees.	Outside trees.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January	40·5	40·9	77·8	77·6	59·3	59·5	·210	·226	·225	·206	·212	·207	81	31	27	78	29	24	...
February	45·5	46·0	80·2	81·3	62·9	63·6	·228	·231	·250	·229	227	·246	73	31	27	72	30	26	...
March	55·7	55·7	85·8	88·6	70·5	71·0	·358	·310	·325	·347	·303	·315	80	33	30	77	32	28	0·10
April	64·3	64·4	99·3	100·5	82·7	83·8	·454	·426	·432	·454	·428	·436	74	30	25	75	30	24	0·01
May	69·8	71·2	103·8	105·0	86·4	87·3	·610	·512	·506	·628	·523	·519	83	34	26	82	33	26	1·08
June	79·7	80·2	99 8	100·7	87·5	88·5	·699	·665	·644	·686	·688	·682	69	50	37	67	50	38	1·73
July	75·2	76·2	88·7	89·5	80·4	81·6	·765	·771	·794	·776	·774	·787	87	72	63	86	69	61	4·06
August	72·9	73·8	87·2	88·2	78 0	79·4	·727	·761	·753	·743	·773	·773	89	77	64	89	75	63	4·91
September	71·8	72·8	93 0	95 1	80·3	81·8	·652	·693	·686	·672	·706	·693	83	61	48	83	59	46	1·56
October	59·4	59·9	93·5	94·4	74·2	75·3	·421	·634	·595	·422	·592	·589	80	52	45	78	50	41	0·31
November	49·1	49·3	84·7	85·4	64·8	65·6	·247	·401	·362	·254	·392	·360	69	47	34	71	44	33	0·08
December	45·6	45·8	73·1	73·2	57·1	57·9	·255	333	·313	·252	·316	·298	82	56	44	77	51	41	0·79
Total of 1890	729·5	736·2	976·9	1079·5	884·1	895·3	5·626	5 963	5·885	5 669	6 034	5·905	950	574	468	935	552	451	14·63
Average	60·8	61·3	81·4	89·9	73·7	74·6	·469	·497	·490	·472	·503	·492	79	48	39	78	46	38	...
Total of 1889	712·4	704 5	1049 3	1071 7	873·3	877·7	6·139	6·182	5·898	5·880	6 013	5·723	1,066	609	476	1,051	564	442	24·17
Average	59·4	58·7	87·4	89·3	72·8	73·1	·512	·515	·491	·490	·501	·477	89	51	39	87	47	37	...

APPENDIX C.

METEOROLOGICAL OBSERVATIONS (STATION B).

Results of Meteorological Observations conducted at the Mokwabir Forest Reserve (Ajmere), about 1,680 feet above sea-level. Observatories of the Dehra Dun Forest School Pattern. Cages with instrument 4 feet above ground.

Calendar year 1890.	Dry Minimum.		Dry Maximum.		Daily Means.		Mean Vapour Tension.						Mean Relative Humidity.						Rainfall.	
							Inside Forest.			Outside Forest.			Inside Forest.			Outside Forest.				
	Inside Forest.	Outside Forest.	Inside Forest.	Outside Forest.	Inside Forest.	Outside Forest.	From minimum.	At 10 hours.	At 16 hours.	From minimum.	At 10 hours.	At 16 hours.	From minimum.	At 10 hours.	At 16 hours.	From minimum.	At 10 hours.	At 16 hours.	Inside.	Outside.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January	38·4	45·0	79 9	78·3	59 4	60·9	·197	·255	·256	·231	·243	·231	83	33	28	76	35	28	...	...
February	44·1	50·2	82 1	81·9	62·9	64·6	·228	·263	·287	·248	·237	·253	78	34	30	68	32	28	...	...
March	54·1	56·8	89·9	87·1	70·6	70·1	·341	·322	·342	·342	·307	·319	79	33	29	73	33	29	0·31	0·26
April	62·1	64·9	101·0	100·4	82 3	83·2	·447	·474	·479	·462	458	·418	79	33	27	71	30	24	0·02	0·02
May	70·6	70·8	105·2	104·4	84·5	86·8	·646	·546	·600	·616	·506	·501	86	36	31	81	34	33	0·11	0 30
June	78·3	78·5	101·4	100·9	87·3	87·2	·704	·738	·752	·699	·672	·669	72	54	42	72	51	38	2·43	2·18
July	75·1	75·6	90·3	90·2	80·3	80·9	·740	·784	·802	·733	·759	·780	84	72	63	83	69	61	3 68	3·26
August	73·2	73·2	88·4	88·1	78·7	78·7	·722	·804	·809	·718	·778	·766	87	79	68	88	77	63	6·34	5·75
September	70·9	72·7	95·8	94·7	80·6	80·9	·629	·782	·779	·662	·727	·734	82	66	54	82	63	51	1·88	1·89
October	60·2	62·8	95·8	94·8	75·3	75·9	·414	·619	·616	·430	·618	·615	77	51	42	73	53	44	0 40	0·26
November	47·9	51·0	86·9	86·3	64·6	66 0	·242	·403	·380	·283	·414	·371	72	45	34	74	48	33	...	0·05
December	42·2	46·8	75·4	75 0	56·3	57·9	·226	·338	·294	·241	·324	·292	80	55	39	72	54	40	1·17	0·86
Total of 1890	717·1	748·3	1093·1	1082·1	882·8	893·1	5·536	6·328	6·396	5·665	6·043	5·949	959	591	487	913	579	472	16·34	14·83
Average	59·8	62·4	91·1	90·2	73·6	74·4	·461	·527	·533	·472	·503	·495	80	49	41	76	48	39	...	...
Total of 1889	700·8	721·5	1077·4	1064·7	879·1	886·1	6·652	6 367	6·135	5·857	6 304	6 020	1,083	600	481	1,009	605	474	27·13	26·12
Average	58·4	60·1	89·8	88·7	73·2	73·8	·554	·530	·511	·488	·525	·501	90	50	40	84	·50	40	...	...

APPENDIX D.

METEOROLOGICAL OBSERVATIONS (STATION C).

Results of Meteorological Observations conducted at Rawli Forest Reserve (Todgark Block), about 2,800 feet above sea-level. Observatories of the Dehra Dun Forest School Pattern. Cages with instruments 4 feet above ground.

Calendar Year 1890.	Dry Minimum.		Dry Maximum.		Daily Means.		Mean Vapour Tension.						Mean Relative Humidity.						Rainfall.	
							Inside Forest.			Outside Forest.			Inside Forest.			Outside Forest.				
	Inside Forest.	Outside Forest.	Inside Forest.	Outside Forest.	Inside Forest.	Outside Forest.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	From minima.	At 10 hours.	At 16 hours.	Inside.	Outside.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January	43·9	46·4	82·1	81·4	61·7	62·3	·210	·235	·345	·208	·229	·363	·70	33	34	65	34	36	...	0·34
February	49·4	51·0	83·1	81·2	65·6	65·5	·249	·186	·231	·262	·189	·213	68	24	23	69	24	22		...
March	58·2	59·4	88·9	87·5	72 9	72 9	·295	·286	·296	·314	·309	·320	62	30	24	62	33	26	...	0·09
April	61·2	63·5	100·5	99·6	82·5	84·9	·351	·291	·272	·345	·508	·476	65	32	15	59	37	28	0 10	0·10
May	68·1	68·3	104·9	103·9	86·7	85·4	·460	·503	·433	·452	·590	·527	68	33	21	66	41	27	0·10	...
June	70·5	70·7	100·4	97·9	84·7	82·7	·456	·699	·640	·478	·682	·625	61	51	35	64	54	38	2·99	2·32
July	65·8	66·5	88·8	87·4	76·6	75·8	·453	·775	·734	·485	·733	·694	73	74	58	75	73	58	5·52	5·48
August	62·6	63·7	87·3	85·9	74·4	73·7	·455	·761	·716	·479	·701	·681	81	76	60	82	75	58	2·22	1·69
September	66·0	65·4	93·9	96·0	77·2	78·7	·493	·657	·589	·473	·650	·591	77	60	41	76	55	38	1·57	1·89
October	64·0	63·2	93·9	95·9	76·7	78·0	·382	·448	·396	·386	·441	·391	62	37	27	64	34	24	...	...
November	55·6	57·9	87·4	88·2	69·9	70·3	·238	·267	·212	·226	·278	·234	53	27	18	53	27	19	...	...
December	48·9	49·2	76·8	77·1	61·4	62·0	·232	·278	·230	·227	·294	·251	65	40	27	65	41	28	0·34	0·40
Total	714·2	725·2	1088·0	1082·0	890·3	892·2	4·274	5·386	5·094	4·335	5·604	5·366	805	517	383	800	528	402	12·84	12·31
Average	59·5	60·4	90·7	90·2	74·2	74·3	·356	·449	·424	·361	·467	·447	67	43	32	67	44	33	...	...
Total of 1889	773·6	789·3	1077·9	1084·7	908·1	922·6	4·799	4·962	5·149	4·932	5·005	5·149	749	463	406	737	482	419	24 29	22·02
Average	64·5	65·8	89·8	90·4	75·7	76 9	·400	·413	·429	·411	417	429	62	38	34	61	40	35	...	...

APPENDIX E.

WELL EXPERIMENT—MOHWABIR RESERVE.

AREAS AND DESCRIPTION OF CATCHMENT ABOVE WELLS.—*The area is about 200 acres with a catchment consisting of a fairly broad valley with numerous small streams coming into the main nala. The rock is close to the surface and abounds in quartz, so that the soil is very poor. This tract was taken up in 1872.*

DATES.	Well No. 1.	Well No. 2.	Well No. 3	REMARKS.
15th March 1890 .	44·83	37·75	33·16	These wells are situated along the bed of a stream. Well No. 3 is highest up the stream. Distance between wells Nos. 1 and 2 = 1,417 feet and between wells Nos. 2 and 3 = 1,573 feet. The present growth consists chiefly of *khejra, babul, arinja, nim,* which came out in full leaf in the beginning of April. Grass-cutting commenced in November and was continued till the end of March 1890. No fires occurred during the year.
22nd „ „ .	44·91	37·91	33·33	
29th „ „ .	45·10	38·00	33·75	
5th April 1890 . .	45·25	38·25	34·50	
12th „ .	45·50	38·66	dried up.	Rainfall from 1st March 1888 to 1st March 1889 = 26·96 inches.
19th „ .	46·00	38·58	...	Rainfall from 1st March 1889 to 1st March 1890 = 25·04 inches.
26th „ .	46·25	38·75	...	South-west monsoon commenced on 17th June 1890.
2nd May 1890 . .	46·66	38·91	...	
8th „ . .	46·75	39·16	...	
15th „ . .	46·83	39·25	...	
22nd „ . .	46·91	39·41	...	
29th „ . .	47·16	39·91	...	
8th June 1890 . .	47·50	40·00	...	
15th „ . .	47·66	40·10	...	
21st „ . .	47·16	40·00	...	
TOTAL .	694·47	584·64	134·74	
AVERAGE .	46·30	38·98	33·69	
TOTAL OF 1889 .	694·06	599·14	501·91	
AVERAGE .	40·83	35·24	29·52	

AJMERE;
Dated the 1st July 1891.

HIRALALL SINGH,
Sub-Asst. Conservator of Forests.

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